CHAPTER XIV

Engineer Aviation Units

In contrast to the early trend toward centralization in the training of ASF engineer units, the AAF did not provide Engineer Unit Training Centers until the spring of 1943. This variation in approach to a similar training task was indicative of different concepts within each command which had appreciable effects upon the training of engineer troops. Engineer aviation units occupied an ambiguous and somewhat unstable position between the Corps of Engineers with its long, proud, exclusive tradition and the Army Air Forces—new, aggressive, and equally proud.[1] Control of these units was never a clear-cut matter, either in their training or overseas. Some theater commanders, short of engineer troops, used aviation battalions for any priority construction job; others reserved them for Air Forces projects only. During the units' training in the United States, conflict arose chiefly from the attempt to apply Engineer concepts of training within the AAF framework. Although engineer aviation units made up a significant portion of the total number of engineer troops, the Corps of Engineers came to have little control. The units were a negligible fraction of the AAF, which gradually assumed almost complete charge. At no other one point did the divided loyalties collide with greater force than in the Office of the Air Engineer where Engineer officers served on the AAF staff. It was the Air Engineer who had to reconcile the two pressures with the least possible damage to the units involved.

New Activations During the Equipment Shortage

During 1941 twelve engineer aviation battalions had been activated, hurriedly organized at various scattered Air Forces bases, and rushed to Alaska, Hawaii, Puerto Rico, Panama, and the Philippines after about three months of training. Activations in 1942 increased rapidly.[2] In the first four months the Engineers formed seventeen battalions with white personnel and five with Negro troops. For a time the ERTC's furnished basically trained fillers, but by April this supply became thin. Transfers from other types of engineer units and from training centers of other branches helped somewhat until late spring, but engineer aviation battalions had to rely increasingly upon recruits from reception centers. The experience of the 833d Engineer Aviation

[1] Because most of the information in this chapter on the training of aviation engineers came from the AAF Central File, citations from that source have no depository indicated. (See Bibliographical Note.)

[2] In addition to those documents and files cited throughout the text, this section is based upon: (1) Engr Avn Units, CONUS and Overseas, as of 1 Mar 44. OCE 320.2, Engr Avn Units (C); (2) 321–A, Engr Corps (S); (3) OCE 475, Engr Avn Units; (4) R&D Div file, A/B Engr Equip GN 356; (5) ERDL GN 355, 1 Oct 42–31 Jan 43.

Battalion provides an insight into some difficulties encountered in the early summer months of 1942. Fillers were a mixture of ERTC personnel, basic infantrymen, and recruits, but the unit had so few officers that it was impossible to run separate programs for recruits and for those who had already had basic training. Therefore, the whole battalion began an eight-week program of basic training, engaging in no combat problems or engineering operations. In mid-July this unit, still some 250 men understrength, moved to a staging area. By the end of summer the supply of ERTC-trained initial fillers dried up completely. Only cadres, cadre replacements, and last-minute filler replacements could be obtained from the ERTC's.[3]

Just as the sources of basically trained engineer fillers diminished in the spring of 1942, the War Department acted upon the presumed urgent need for airborne engineer aviation troops. Brig. Gen. Stuart C. Godfrey, Air Engineer, took the initiative in delineating the support role of engineer units in an airborne infantry operation to capture and make use of airfields, many of which would probably be deep within enemy-held territory. The engineers in such an operation would go in in three waves, each with a progressively more complicated mission to perform. The first was to consist of airborne combat engineers, dropped by parachute, who would clear with hand tools a space just large enough to assure a landing spot for the gliders of the second wave. This second wave, the engineer airborne aviation battalion, was to follow immediately for more extensive but still limited repair with bantamweight machinery. Permanent reconstruction and enlargement of the airdrome would be undertaken later by engineer aviation battalions, moving overland, with standard construction machinery.

At a conference in Godfrey's office on 8 June 1942 planners agreed that the second mission represented the greatest innovation. At least one airborne engineer aviation battalion should be formed to test the new organization and special equipment. Maj. Ellsworth I. Davis of the Engineer Board was designated to develop the equipment for this battalion and Capt. Harry G. Woodbury of the 21st Engineer Aviation Regiment was given the full-time job of integrating doctrine, organization, and training.[4]

Within the next month Woodbury worked out the details which governed the training of the eighteen airborne aviation battalions activated during the course of the war. He recommended that the battalion be armed and trained in weapons sufficient only for its own defense. The unit should proceed unhampered to do the most rapid repair job possible in order to provide minimum field space for cargo planes, fighters, observation planes, and light bombers. Woodbury suggested that a provisional aviation training unit be furnished to supervise the basic and technical programs for these battalions. Each unit should then be transferred to some airborne command station for further development of techniques.[5]

The provisional training unit was not established at once. Instead, Woodbury was

[3] (1) Ltr, ACofEngrs to CG SOS, 6 Apr 42, sub: Trp Basis for Activation of Engr Units with AAF. OCE 320.2, Engrs Corps of, Pt. 15. (2) USAF HD, Engr–823 HI (S). (3) Ltr, Godfrey to Engrs First, Second, Third, and Fourth Air Forces, 3 Aug 42, sub: Tng of Avn Engr Trps. KCRC AF 353, Tng Book III. (4) USAF HD, Engr–833–HI.

[4] Min, Conf on A/B Avn Engrs, 8 Jun 42. OCE 320.2, A/B Engrs (C).

[5] Woodbury, Notes on Orgn, Opns, Equip, and Tng of A/B Avn Engrs, 9 Jul 42. OCE 320.2, A/B Engrs (C).

placed in charge of an experimental battalion, the 871st, activated at Westover Field, Massachusetts, on 1 September 1942. The organization of this unit began in late August with a cadre of 100 volunteers from other aviation units and was brought to full strength in the same manner by 20 September. The Engineer Board meantime chose certain types of lightweight construction machinery suitable for transport by air. The Air Transport Command furnished four C–47's in mid-September. Within the first month each crew flew 120 hours of training flights, and those engineers who could not adjust to airborne operations were eliminated.

The battalion's cargo planes were soon busy on another task. Even though the organization and equipment had been given no tests, two companies of this first battalion were slated for the North African invasion within six weeks of activation. Consequently, manufacturers were prodded to produce at least some of the bantam equipment that the board had tentatively selected. The four cargo planes then began a shuttle service to Midwest factories, picking up bulldozers, carry-all scrapers, graders, sheepsfoot rollers, air compressors, jeeps, asphalt repair plants, and electric lighting sets as they came off the assembly lines. By mid-October the two companies had been trained, equipped, and sent to a staging area.

Anticipating a great demand for such units, the War Department activated five additional airborne aviation battalions before the end of 1942. Two of these were organized at Westover Field in October and three at Camp Claiborne in November—the latter three moving to Westover Field by late February 1943 after a basic and technical period at Claiborne. These five units had a longer period of training than did the companies rushed off to North Africa, giving the Engineer Board more time to study and perfect the airborne construction machinery.[6]

Standard machinery for all engineer units was scarce. The conventional engineer aviation battalions felt the shortages most keenly because they carried a more complete construction plant than any other engineer unit. With such a short period in which to bring these units to proficiency, the logical solution seemed to be the one already in operation at the Claiborne EUTC. Sets of training equipment would be furnished to the seventeen bases then being used to train aviation engineers. Such sets would remain at these stations permanently and be used in turn by each unit assigned.

In requesting these seventeen sets in August, the Director of Base Services, AAF, explained that nonstandard equipment would be acceptable. But even this modest request was more than either the Engineers or Ordnance could fill. In November the Construction Division, OCE, released twenty used tractors to each of the three engineer aviation regiments. The machines were dilapidated but they were tractors. Some air compressors were also available, and it was almost certain that a few shovels and welding sets would be shipped before Christmas.[7] OCE at this time was not responsible for determining the types or amounts of engineer equipment carried by aviation units. At the direction of the War Department, AAF assumed this function

[6] Ltr, Adj EUTC Claiborne to CofEngrs, 1 Jan 43, sub: Capacity of EUTC, with Incl 2, Units in Tng as of Midnight 31 Dec 42–1 Jan 43. OCE 320.2, Camp Claiborne (C).

[7] AR 310–60, 12 Oct 42.

BANTAM TOWED SCRAPER *being loaded on a cargo plane for shipment to North Africa, January 1943.*

on 12 October 1942. Procurement of the equipment as determined by AAF was still a function of OCE, however.

Basic Military Training

Early in November 1942 the War Department also made the AAF responsible for the basic military training of all arms and services personnel with the AAF (ASWAAF).[8] From December 1942 to May 1943 all aviation engineer recruits went from reception centers to Jefferson Barracks, Missouri, for basic training under the supervision of the Army Air Forces Technical Training Command (AAFTTC). In effect, this system contemplated a return to the prewar period when fillers came from the ERTC's. With basic military training behind him, the engineer recruit would be ready, upon assignment to a unit, to refine his technical skills, begin tactical exercises, and practice airfield construction. But such was not to be the case. Basic training at Jefferson Barracks differed considerably from that at the ERTC's.[9]

[8] In addition to those documents cited separately, this section is based upon: (1) 353, Basic Tng Book I; (2) Wesley Frank Craven and James Lea Cate, eds., *Men and Planes,* Vol. VI, *The Army Air Forces in World War II* (Chicago: The University of Chicago Press, 1955), pp. 528–31.

[9] (1) Memo, Brig Gen Thomas J. Hanley, Jr., Deputy C of Air Staff for G–3, 13 Nov 42, sub: Tng of Colored Pers at Jefferson Barracks. 353–A, Negro Tng (S). (2) Ltr, AG Hq AAFTTC to CG AAF, 20 Nov 42, sub: Tng of Colored Trps. Same file.

At first there were encouraging signs. Just as the AAFTTC received the new responsibility for conducting the basic military training of ASWAAF troops, AAF directed the gradual extension of the basic military period from four to eight weeks for all recruits except those slated for technical schools. The latter would move out after four weeks of instruction. Also, some branch training would be allowed during the second month. On 8 December 1942, at a conference held at AAFTTC headquarters, the arms and services presented their proposals for branch training. Only Ordnance, Chemical Warfare, and the Engineers desired any special work. Chemical Warfare wanted 20 hours, Ordnance 37. The Engineers, always anxious to produce a basic soldier who would also be skilled in demolitions, rigging, and carpentry, and familiar with engineer tools and equipment, presented a program including 61 hours of branch training. Unfortunately, the conversion to an eight-week basic course took six months. On 1 May 1943 the eight-week schedule was finally effective, but by that time Godfrey was ready with suggestions which would curtail the AAFTTC control of engineer aviation basics to five weeks.

One particular source of dissatisfaction with AAFTTC control was the improper classification and assignment of men to the airborne battalions. The rigorous conditions under which airborne troops would operate made it imperative to select only young men who were physically and mentally tough, but of the 883 men assigned to Westover Field in December 1942, only 716 could be used in the first battalions. Some were subject to airsickness, others lacked stamina or did not show the required aggressive attitude. There were 102 men over the desired age limit who had to be kept.[10]

None of the engineer aviation units which received fillers late in 1942 and during the early months of 1943 could depend upon getting troops with the minimum four weeks of basic training. Even had these recruits actually remained at Jefferson Barracks for that length of time they would still have received only sixteen days—the first twelve days being devoted to classifying, testing, equipping, and immunizing. Men selected to attend SOS schools, roughly 40 percent, rarely stayed at the center for four weeks. Until mid-January 1943 the AAF basic training centers filled specialist school quotas regardless of whether or not the recruits had finished basic training. Some had as little as five days. Such men would pick up some basic instruction at SOS schools, but would still have to receive some elementary training within the units to which they were eventually assigned.[11]

On 8 February the AAF Director of Individual Training called a halt to this trend, demanding that the AAFTTC give four weeks to all, and eight weeks to those not going to schools. By the end of March AAF tightened its control still further by denying all special waivers to shorten the four-week program. Eight weeks was not yet mandatory, but each man transferred with less than eight weeks had to have the reason therefor stated in his record.

The early transfer of Engineer specialists to SOS schools and the brief period of training for the remaining fillers nullified the December agreements on branch training.

[10] Ltr, CO 925th Prov A/B Engr Avn Regt to CG AAF, 1 Jan 43, sub: Fitness of Pers for A/B Engr Avn Units, with 1st Ind, 10 Jan 43, with 2d Ind, Dir Pers AAF to CG AAFTTC, 26 Feb 43. 321–A, Engr Corps (S).

[11] 2d Ind, Hq First Air Force to CG AAF, 1 May 43, on Ltr, Hq First Air Force to CG AAF, 3 Apr 43, sub: Immediate Specialist Rqmts for 924th Engr Avn Regt. 321–A Engr Corps (S).

There simply was no second month. Nevertheless, Godfrey determined to strengthen this training wherever possible and to "stamp the recruit from the beginning as an engineer soldier." [12] To this end he managed to have scores of young Engineer officers assigned to training positions at the Jefferson Barracks center. By May 1943 he had secured 165 such instructors as well as one colonel who served as a staff assistant. But adequate facilities for branch training were never developed at Jefferson Barracks because of the continuous postponement of the eight-week program.

Centralization Begins

From January through May 1943 the AAF activated forty-six engineer aviation battalions—as opposed to thirty-nine during the whole of 1942—and organized seven airborne engineer aviation battalions.[13] The provision of cadres, officers, basic fillers, and specialists, as well as tools and equipment would have been complicated under ideal circumstances. The job of welding these separate parts into unified, smooth-functioning teams, capable of airfield construction and defense, would have taxed the ingenuity and resources of the most well-regulated centers. To have so many battalions scattered at widely separated air bases would have made co-ordination difficult and standardization practically impossible. Some technical supervision might come from the Air Engineer at AAF headquarters through the small Engineer staff of each of the four air forces, but essentially each unit would be on its own.[14]

By May 1943, however, a more centralized system had evolved from the training of engineer aviation regiments. Few engineer aviation units of this size had been activated since the Engineers, late in 1941, had determined that the battalion would be the more useful and manageable unit overseas. In August 1942 two regiments had been formed, one at Geiger Field, Washington, and one at Eglin Field, Florida. Subsequent activations at Richmond, Virginia, in October, and at Westover, Massachusetts, in November, brought the total number of regiments to four.[15]

It was apparent by the fall of 1942 that the grouping of even a few battalions at one installation offered some decided advantages over the training of isolated units. Equipment could be shared and personnel exchanged just as in the EUTC's. Training was faster. Gradually the regiments took on the function of unit training centers. By November 1942, battalions were being detached from these regiments and placed on overseas shipment schedules. The regiments then refilled. Early in 1943, with the beginning of the big expansion, it became a common practice to attach extra battalions to each regiment for training in addition to the three organic battalions.

There were several flaws in this arrangement, as the Engineer staff in the Second Air Force headquarters quickly pointed out in January 1943. Battalions which remained organic to a regiment did not develop ini-

[12] *Aviation Engineer Notes,* No. 12 (February–March 1943). USAF HD, 144.31A, Feb–Mar 43.

[13] In addition to those documents cited separately, this section is based upon: (1) 321–A, Engrs Corps of (S); (2) 321, Engr Avn Bn, Bulky (S).

[14] (1) Engr Avn Units, CONUS and Overseas, as of 1 Mar 44. OCE 320.2, Engr Avn Units (C). (2) Ltr, Godfrey to Engrs First, Second, Third, and Fourth Air Forces, 3 Aug 42, sub: Tng of Avn Engr Trps. KCRC, AF 353, Tng Book III.

[15] (1) See above, p. 25. (2) Incl, Hq AAF, Avn Engr Priority List, to Ltr, Dir Base Svs to OCE, 23 Mar 43, sub: Avn Engr Priority List. OCE 322, Engr Avn Units.

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tiative. Battalions which were only attached gained a more thorough knowledge of property procurement and accounting since they did their own supply requisitioning. Morale in the independent battalions seemed higher. The Second Air Force suggested that a more uniform and flexible system might be provided. Discarding the fiction of battalions being organic to regiments, groups of battalions might be trained on an equal footing at several Aviation Engineer Training Centers. In mid-February the AAF Proving Ground Command submitted a similar plan.

A long step in the development of such centers came in March with the activation of two regimental headquarters, one at March Field, California, and the other at MacDill Field, Florida, each with a strength of 19 officers and 257 enlisted men and with no organic battalions. Instead, the individual battalions already stationed at these two bases were assigned to the new regimental headquarters for administration and training. During the same month, the battalions of the regiments stationed at Geiger Field and at Eglin Field were redesignated as individual, numbered battalions. Training stations had been reduced to thirteen, five for the training regiments and eight others. In April, three more regimental headquarters were activated, one to replace the 924th Regiment at Richmond, and two at new locations, at Davis-Monthan Field, Arizona, and at Gowen Field, Idaho.[16]

Although the overhead was small at these regimental headquarters and only a few battalions could be attached to each, some centralization resulted nonetheless. Engineer aviation units occupied fewer bases during a period when activations rose at an unprecedented rate. Moreover, the staffs devoted their entire time to the supervision of training, providing more local and immediate direction than heretofore. Some standardization resulted from using fewer installations for training increasing numbers of troops. The number of stations OCE had to supply with training equipment in a period of shortages remained practically static.

Used Equipment Appears

In the spring of 1943 the used construction machinery so long promised by the Construction Division, OCE, finally appeared. In the belief that the release of great quantities of this equipment was imminent, Maj. William D. Eister, Godfrey's assistant for supply, presented to OCE on 2 March an analysis of engineer aviation battalion needs. He proposed that a complete set of standard construction equipment (set "A") for each battalion be shipped to a port of embarkation straight from the sources of supply when a unit moved overseas. During the training period each battalion would be issued a station set of used equipment (set "B"), containing a minimum amount of essential machinery. A third set (set "C") of special equipment, in the use of which little training beyond familiarization was contemplated, would be

[16] (1) Memo, Asst Air AG for TAG, 24 Feb 43, sub: Activation and Reasgmt of Certain Engr Units with the AAF. 322, Engr Misc (Bns, Cos, Plats, etc). (2) Ltr, TAG to CGs Second Air Force and AAF Proving Ground Comd, 1 Mar 43, sub: Redesig of Certain Engr Units with the AAF. OCE 322, Engr Avn Units. (3) Ltr, Air Engr Office to OCE, 2 Mar 43, sub: Tng Equip for Engr Avn Units. OCE 475, Engr Avn Units. (4) Memo, Asst Air AG for TAG, 20 Mar 43, sub: Constitution, Activation, and Reasgmt of Certain Engr Units with the AAF. 322, Engr Misc (Bns, Cos, Plats, etc).

supplied to each station at a ratio of about one set for every two or three battalions.[17]

By the end of March the Supply Division, OCE, had begun to act upon Eister's plan. It was sending sets "B" and "C" to the thirteen training bases, subtracting in each case the amounts of equipment currently held by the units. Nonstandard and used machinery made up the bulk of these sets. Complete sets of equipment, standard and new if possible, would accompany the units overseas within a few months. The units moving out would meanwhile have to appropriate parts of the training sets to make up for any deficiencies in the "A" sets at the ports. In this way, OCE made sure that the standard equipment which had been absorbed into the station sets would gradually be taken from those sets and given to units going overseas.[18]

A strong argument for the immediate removal of all standard equipment from training establishments came from Capt. Richard F. Grefe, Supply Division, in the latter part of May:

> In this particular case Geiger Field has been shipped their full allowance of construction equipment and in addition has some surplus over and above the Engineer equipment we had shipped to the organizations as part of their T/BA. The 851st now getting ready to depart were unable to take from Geiger Field a complete Aviation Battalion set of equipment as the story came back from Geiger Field that the equipment was "deadlined." Of 20 D–7 tractors, six (6) ½-yard shovels, 4 sets of Couse shops, etc., the 851st were unable to find 8 serviceable D–7 tractors, two (2) ½-yard shovels, one (1) set of Couse shops, etc. This equipment, some of it, had been at Geiger Field for only a short time. I immediately got in touch with Columbus through Major Bugbee and requested a complete check of the Geiger Field equipment by master mechanics from the Regional Field Maintenance Office. Three of them are now at Geiger Field and the report came through May 22, that the equipment listed above is not serviceable and was in need of 4th echelon repairs. All of the tractors have 600 hours operation or less on them.
>
> I mentioned this to Major Eister and he was in complete agreement that we should immediately take out of these posts, camps, and stations the surplus standard equipment and get it into our depots for repair and conditioning for overseas use before it is too late. Another two months of this equipment being abused will render it useless for overseas duty. . . . We are also taking action to notify the Commanding General, Army Air Forces of the apparent abuse and neglect our equipment is getting in the field but of course much of this might be charged to green personnel as an inexperienced operator can wreck a ½-yard shovel in five minutes.[19]

Maintenance was indeed high on equipment constantly used by green personnel, but substituting already worn nonstandard machinery only served to multiply this work load. The equipment was in such poor condition that the battalions could not keep it in repair. Requests that engineer maintenance companies be assigned to the training centers to keep this machinery running met with refusals. Neither AGF nor ASF had any units to spare.[20]

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[17] (1) Ltr, Asst Air Engr to OCE, 2 Mar 43, sub: Tng Equip for Engr Avn Units, with 3 Incls, Set "A," Set "B," Set "C." OCE 475, Engr Avn Units. (2) Memo, Engr Fld Maint Office for C of Engineering and Dev Br OCE, 19 Mar 43, sub: Asphalt and Soil Stabilization Equip. OCE 400.34, Engr Avn Units. (3) 1st Ind, 8 Apr 43, on Memo, O&T for CG AAF, 31 Mar 43, sub: Asphalt and Soil Stabilization Equip. Same file.

[18] (1) 1st Ind, 1 Apr 43, on Ltr, Asst Air Engr to OCE, 2 Mar 43, sub: Tng Equip for Engr Avn Units. OCE 475, Engr Avn Units. (2) Interoffice Memo, Capt Richard F. Grefe for Lt Col Charles H. Brittenham, Sup Div OCE, 24 May 43, sub: Transfer of Equip to the Depots. OCE 400.22, Pt. 1.

[19] Memo cited n. 18(2).

[20] Ltr, ExO Office of Air Engr to CofEngrs, 22 Jun 43, sub: Temporary Asgmt of Maint Cos, with 1st Ind, 26 Jun 43. OCE 322, 2d Engr Avn UTC.

Evaluation of Unit Training

The units which trained from the fall of 1942 to the spring of 1943 did not have the benefit, however dubious, of this surplus equipment.[21] Only the later ones had the full advantage of regimental headquarters supervision. Within the short time available, the battalions had to complete the basic military training that was supposed to be given by the AAFTTC. Engineering skills had to be developed at stations that were primarily AAF bases. Most serious, the battalions had too little time or opportunity to engage in large-scale field exercises to prove their ability at airdrome construction.

The battalions engaged instead in many small jobs primarily intended to improve the bases where they were stationed rather than in co-ordinated efforts designed to mold the units through successive stages into competent and confident construction organizations. Negro battalions were particularly restricted. The units assigned to Eglin Field, Florida, were first of all labor troops at the disposal of the AAF Proving Ground Command.[22] One of the better trained of the Negro battalions from Eglin Field, the 857th, activated in November 1942, was interrupted frequently to do small jobs for the post. The only field problem attempted was the completion of a partially finished heavy bar and rod runway. Other Negro units were not even this fortunate.[23] White battalions fared somewhat better. In the west, the Fourth Air Force assigned one battalion at a time to the Desert Training Center. Here constant maneuvers designed to test and perfect the co-ordination of ground and air forces provided a high level of experience for aviation units. These few fortunate battalions lived under field conditions and participated in changing air-ground operations which developed foresight and ingenuity. The 835th built four small landing strips suitable for light planes by clearing, grading, and compacting the desert soil with water. The climax to this training came with an order to construct an entire runway of light bar and rod landing mat. The unit prepared first a water-bound compacted base which took an enormous amount of water in a region where there was little water to be had. The battalion borrowed tank trucks from other units and rented commercial tankers. Other equipment was also scarce. Although the commanding officer felt that he was in the uncomfortable position of never quite being able to do a finished job, his unit profited from an experience denied to many of the other engineer aviation battalions.

One exceptionally good tactical exercise to which Godfrey gave wide publicity through his magazine, *Aviation Engineer Notes,* was that of the 850th stationed at Hammer Field, near Fresno, California. This exercise simulated support of a bomber group and attached fighter squadrons. Warning came on 24 February that on the following day Company A would move out to a nearby ranch and lay an emergency landing strip of pierced plank mat. Company B would follow to install ground defenses and support A as needed. Company

[21] In additon to those documents cited separately, this section is based upon the following files: (1) 353.6 DTC Tng, Desert, Bulky (C); (2) KCRC, AF 353, Tng Books I, II.

[22] (1) Ltr, CG AAFPGC to Godfrey, 13 Feb 43. 321, Engr Avn Bn, Bulky (S). (2) Memo, Asst Air AG for TAG, 19 Dec 42, sub: Disbanding of Certain Engr Avn Units. 321–A, Engr Corps (S).

[23] (1) USAF HD, Engr–857–HI. (2) Ltr, Godfrey to CG AAFPGC, 24 Feb 43. 321, Engr Avn Bn, Bulky (S). (3) USAF HD, Engr–849–HI (S). (4) USAF HD, Engr–855–HI. (5) USAF HD, Engr–1872–HI.

C would go to another site near the Fresno municipal airport, set up ground defenses, and repair landing strips. This was the plan presented to the entire battalion except that Company C had secret orders to attack Company A. At two o'clock the next morning the officers and observers assembled at battalion headquarters for final instructions. Within the hour the trucks began to roll—first Company C, then A, followed by B—under blackout conditions, assuming the presence of the enemy. At about five o'clock Company A had reached its destination, organized work details, sketched out the field, and had the mat-laying underway. However, the company either neglected to post security details or the sentries were not alert. Company C formed a skirmish line within twenty-five yards of the strip and made a successful attack that wiped out the working party and captured all equipment. Company B could not be called up quickly enough to be of any help. Company A resumed work on the landing mat. Immediately thereafter a cloud of tear gas drifted over the field. The gas alarm passed quickly from man to man. Company A donned gas masks and again went on with the work. Raids continued sporadically until dawn but none as successful as the first. At seven, three B–25's made low-level strafing attacks which required dispersal and return of fire. Two hours later an A–17 simulated a mustard spray attack at an elevation of only 150 feet. The spray was a nontoxic but foul-smelling mixture with a molasses base that left a brown stain on clothing and equipment to show the exact extent of contamination. The maneuver then ended with a critique for all officers.[24]

The imagination, planning, and co-ordination of this tactical exercise was unusual, not standard. Too few battalions had experiences comparable to those of either the 850th or the 835th. Criticisms from overseas began to point out training deficiencies. Apparently the lack of realistic construction projects had not been too serious a matter for the units activated in 1941. Composed in large part of engineers from other organizations, supplemented by ERTC-trained fillers, they performed remarkably well overseas. As the experience level of succeeding units dropped, as equipment became scarcer and as the units began to move out with little more than basic training, the reports changed. The commanding officer of the 821st, activated in March 1942, commented thankfully that his unit had been "extremely fortunate in coming to a static theater where we could continue our training while carrying on construction work." [25]

By March 1943, the Office of the Air Engineer became perturbed by the frequency of such comments and appealed to the Construction Division, OCE, for help in broadening the scope of training projects. Only a few District and Division Engineers had co-operated with the requests of unit commanders and allotted hardstandings and other small jobs to individual units. The disinterest was understandable since the AAF could not guarantee the length of time the troops would be available. The abrupt withdrawal of a unit for an overseas assignment left a project half-completed, disrupting planning. The fact that the battalions had only a fraction of their equip-

[24] "Training Problems in Field Operations under Tactical Conditions," *Aviation Engineer Notes*, No. 13 (July, 1943). USAF HD, 144.31A, Jul 43.

[25] Ltr, Godfrey to Engrs First, Second, Third, and Fourth Air Forces, COs of Engr Avn Units, *et al.*, 29 Apr 43, sub: Excerpts From Overseas Ltrs. EAC 370.2, Rpts on Trps Obsvns of Overseas Installations (C).

ment made the arrangement awkward. Most important was the general policy that War Department work be carried out by private industry employing civilian labor. Neither construction contractors nor labor unions could be expected to assent to loss of business and jobs on a large scale. The Construction Division, though completely sympathetic with this viewpoint, found a way to help the aviation battalions somewhat. All posts employed a crew of maintenance men who also did a certain amount of primary construction. On 20 March 1943 OCE sent a directive to Division Engineers encouraging the use of aviation engineers on projects carried out on a hired labor basis.

By spring 1943 definite steps had been taken to improve the training of AAF engineer troops. Basic training at Jefferson Barracks had been brought under the control of Engineer officers. Arrangements had been made for fuller sets of training equipment for the units. A more comprehensive plan had been instigated for the advanced unit phase of training for the engineer aviation battalions. Some centralization of control and standardization of output had resulted from the assignment of nonorganic battalions first to engineer aviation regiments and later to regimental headquarters.

Engineer Aviation Unit Training Centers

The grouping of battalions under regimental headquarters was a temporary device to handle the immediate training load during the first few months of 1943.[26] Long-range plans for the year envisioned a total increase of engineer aviation troops from about 70,000 to over 121,000, most of which would have to take place by September in order to have all the units ready for duty by the end of the year. The processing, organizing, and training of a monthly increment of about 6,700 white and 2,100 Negro troops clearly demanded more centralized control in each air force. By 19 March Godfrey had worked out an organization for the airborne Engineer Aviation Unit Training Center (EAUTC), based upon a study of the Claiborne center. The strength of this EAUTC was 38 officers, 2 warrant officers, and 291 enlisted men. For the engineer aviation battalions he provided on 26 March a slightly larger organization with a strength of 58 officers, 2 warrant officers, and 306 enlisted men.[27]

Activation of the four EAUTC's came in April and May 1943—the airborne EAUTC at Westover Field in the First Air Force on 1 April, and the other three a month later at Geiger Field in the Second Air Force, at MacDill Field in the Third Air Force, and at March Field in the Fourth Air Force. Some of the training regiments disbanded at this time, but five remained in existence to serve those battalions grouped at locations more distant from the centers. Each of the four EAUTC's had approximately 5,000 engineer trainees transferred to its jurisdiction immediately. Westover Field trained the airborne engineer aviation battalions—all white troops. The center at MacDill Field had only Negro units. The

[26] In addition to those files and documents cited separately, this section is based upon: (1) 321, A–D, Engr Corps (S); (2) 322, Engr Misc (Bns, Cos, Plats, etc); (3) 353, Basic Tng Book I; (4) KCRC, AF 353, Tng; (5) 353–K, Tng Misc (S); (6) USAF HD, Engr–2–HI, May 43, Constr Hist 2d EAUTC, App. III (C); (7) *Aviation Engineer Notes,* No. 13 (July, 1943), USAF HD, 144.31A, Jul 43; (8) USAF HD, 251–1, May 42–Feb 44, The Tng of A/B Engr Avn Bns Within I Trp Carrier Comd, prepared by Hq IX Trp Carrier Comd, Nov 45; (9) Craven and Cate, VI, *op cit.,* pp. 375, 531, 621–25, 629, 648, 658–66.

[27] Interv, Brig Gen Thomas A. Lane, 27 Apr 55.

Geiger and March Field centers trained both white and Negro engineers.[28]

The small overhead at these centers was feasible only because the air bases assumed most of the administrative and supply work load. Nearly all of the EAUTC personnel engaged actively in the conduct or supervision of unit training. Technical guidance came from the Air Engineer at AAF headquarters. Co-ordination with other organizations within any one air force was the function of the Engineer staff at each air force headquarters. The EAUTC's handled the over-all organization and assignment of personnel to the units and supervised all training. Schools conducted by the EAUTC staffs gave individual special training in those less complicated skills not provided for in ASF schools. With the exception of the airborne troops in the First Air Force, the centers worked out the details of advanced unit training for each organization, including construction projects. The airborne battalions remained at Westover Field for twelve weeks, then moved to a Troop Carrier Command base for six weeks of simulated combat operations in conjunction with Troop Carrier and Airborne Command units. Below the EAUTC level, the regiments provided master training schedules for the battalions and supervised the simpler construction projects in the early stages of training. Essentially, the main load of training remained with the battalion commander.

The centers began to operate under the assumption that the recruits would arrive from Jefferson Barracks with an average of four weeks of basic AAF training, and that undoubtedly many would have more. Beginning with the fifth week, branch training in engineer tools and equipment as well as specialist training would begin. Shortly, however, this convenient assumption came into question. On 1 May the AAF lengthened its basic training to eight weeks but the new program made no provision for branch training at all. To Godfrey this was but one more indication of a much larger issue shaping up between the air force and the arms and services.

During the spring and summer of 1943 Godfrey fought against a tendency in AAF to absorb ASWAAF personnel into the air force organization. The trend began in April with an economy move. The Assistant Chiefs of Air Staff for Personnel and for Training, without consulting the Assistant Chief for Materiel, Maintenance and Distribution (MM&D) or his branch chiefs for the various arms and services, devised a more economical system for distributing personnel. Ostensibly to reduce the costs of rail travel, the proposal included the elimination of the concentrations of ASWAAF personnel such as the Engineers at Jefferson Barracks. All recruits would go to whatever basic training centers were nearest to the reception centers.

Undoubtedly under pressure from Godfrey and other ASWAAF branch chiefs, MM&D took issue with this decision at once. On 26 April all of the interested offices in conference agreed upon a compromise. Recruits for any one branch were to be sent to no more than three basic training centers and were to be grouped within a single organization at each center. Some branch training might well be advisable during the second month. MM&D insisted that the AAFTTC use branch personnel as instructors, and suggested that the instructors from the existing ASWAAF centers be reassigned for this purpose. But Godfrey was

[28] Ltr, TAG to CG Second Air Force, 27 Apr 43, sub: Estab of 2d EAUTC. OCE 322, 2d EAUTC.

still dissatisfied. He knew he would have less control over these troops at three centers than at one. Moreover, at the end of the basic period engineer soldiers went first to replacement wings where AAF administrative staffs with little background to appreciate Engineer needs diverted these men from their original destinations. Junior staff officers apparently "looked upon ASWAAF personnel above Class 4 as legitimate picking for any Air Corps assignment." [29]

The best alternative would have been to send recruits directly from reception centers to the four EAUTC's, bypassing the AAFTTC and the replacement wings. Housing and training facilities were ample at the new centers. A large basic training program had to be maintained in any case to complete the training that was supposed to be given by the AAFTTC. In addition, voluntarily inducted specialists would require five weeks of basic instruction beginning in June. The Air Engineer was in a good position to demand some revision since General Arnold himself had recently become alarmed over the morale and training of ASWAAF troops. On 20 May Godfrey recommended that the three AAFTTC basic centers designated to train engineer troops give the first five weeks of training as outlined by OCE in the current MTP 5–1. Shortly thereafter MM&D notified the four air forces of this plan but cautioned that the EAUTC's should not depend on picking up with the sixth week of the MTP right away because the basic centers were not well enough equipped to give all of the training required in the first five weeks. By mid-June the whole agreement was reversed. All engineer recruits after 1 July were to go to Jefferson Barracks for eight weeks. Engineer subjects could not be introduced until the fifth week.[30]

The insistence by AAF that there should be no branch training during the first four weeks was indicative of a fundamental dissimilarity between the AAF concept of basic training and that held by the Engineers. Whereas the Engineers sought to integrate Engineer subjects as early as possible into basic training, the AAF wanted no specialized instruction in the entire basic period. Actually, until 12 July 1943 the AAF could not insist upon any further compliance with its principles because it had no standardized program worked out beyond the first four weeks. Although thirteen weeks of military service was the minimum necessary before any individual could be transferred overseas, the last nine weeks did not have to be under any definite schedule to meet AAF minimum requirements.

As long as the eight weeks of basic training had been split between two types of installations the Air Engineer had been willing to defer to the AAF standard during the first four weeks. But with the definite commitment of engineer aviation troops for the entire eight weeks to an installation under the AAF Training Command (AAFTC), successor to the AAF Technical Training Command, he reverted to the Engineer principle of early integration of Engineer subjects. Almost simultaneously with the 12 July AAF program, Godfrey submitted an eight-week Engineer program based upon

[29] Interdesk Memo, Col Lane for Brig Gen L. P. Whitten, 16 Aug 43, sub: Obstacles to Avn Engr Tng. 353–K, Tng, Misc (S).

[30] (1) Ltrs, C of Sup and Svs Div MM&D to CGs Four Air Forces, 27 May, 2 Jun, sub: Tng of Engr Avn Units. 353, Tng Standards, Book II. (2) Ltr, AC of Air Staff Tng to CG AAFTTC, 19 Jun 43, sub: Tng of Each Br of ASWAAF in One Basic Tng Center. Same file.

the recently revised MTP 5–1 of 19 June 1943. Receiving a flat refusal on 14 July from the Assistant Chief of Air Staff for Training, the Air Engineer on 22 July finally devised a new program relegating all Engineer subjects to the second month of training. By the end of July the Air Engineer had lost most of his battle with AAF Training. The AAFTC retained control for eight weeks. An integrated program was impossible. Only one important gain had been made. All of the engineer basics were going once more to Jefferson Barracks, with fewer opportunities for AAF staff officers to siphon off the most intelligent and capable recruits.

In late August the Office of the Air Engineer renewed the attack, implying broadly that the AAFTC staff was incapable of carrying out directives. Basic instruction at Jefferson Barracks was a waste of time. Direct shipment of recruits to the EAUTC's would save money. The office had ample corroboration from the EAUTC's. Nearly all of the men received at March Field had been in the Army four months and had barely completed five weeks of basic training between numerous and costly transfers.[31]

A representative from AAF headquarters at last made an inspection of Jefferson Barracks. His report at the end of August proved that the Air Engineer had not exaggerated. Engineer inductees did not keep their branch insignia nor were they segregated as prescribed into a single organization. Instead of eight weeks of training, they were given the first four weeks, then retained for fifty-six more days and shipped out, regardless of training deficiencies in the second four-week period. Quotas to schools still held precedence over accurate assignment. Trainees who were already qualified as specialists in needed categories and who should have been sent straight to the EAUTC's were sent instead to any technical school for which they happened to have entrance qualifications. Specific instructions required reclassification of eligible engineers to fill Air Corps Technical School quotas which could not be met otherwise. As a result of these findings, on 26 August AAF Training directed that the AAFTC issue a composite basic training directive canceling all previous instructions and clearing up all misunderstandings.

Meanwhile, the basics who came to the EAUTC's through the AAF Training Command during the spring and summer of 1943 were of unpredictable quality. So thorough was the skimming that the EAUTC's had difficulty making specialists of even the simplest sorts from the men who arrived. Paradoxically, beginning in May, more of the specialist categories had to be unit-trained from this group. The War Department in that month cut the ASWAAF monthly inflow into the AAF by about one half, reducing the number of men from Jefferson Barracks qualified to meet the ASF school quotas. This large difference could not be made up by taking men from the units and sending them to the ASF schools without interfering seriously with the progress of training. Therefore the units intensified their on-the-job training, particularly for the simpler jobs such as carpentry. The March Field EAUTC met the new requirements with a combination of center-and-unit-trained specialists. It set up on 14 June an Individual Training School in order to furnish each battalion with 40 percent of its specialists before the unit as a whole started a formal training program. Between activation and filling, the units had a three-month organization period. The 40 percent nucleus which trained during this three

[31] Memo for Record, Hq 4th EAUTC, 24 Aug 43. KCRC, AF 353, Tng Book III.

months then instructed others within battalion schools during the MTP training which followed.[32]

July brought still another crisis. The General Staff decreed that all specialist school training be cut to the minimum. The resultant reduction in ASF specialist school quotas caught the AAF unprepared. It had depended solely on these schools for all advanced specialist training of ASWAAF personnel. Maj. Gen. George E. Stratemeyer, Chief of the Air Staff, protested the cuts, since the AAF was not nearly ready to absorb this load. But G–3 remained skeptical of AAF needs and highly critical of its methods, maintaining that AAF had in the past abused its privilege and sent too many specialists to ASF schools. Poor methods of assignment had dissipated ASWAAF talents and wasted training. Fuller use should be made of unit instruction.

Although the EAUTC's could do nothing to change the quality of the basics received from Jefferson Barracks, they could expand unit instruction and alter to some extent the initial assignments by transferring men between units. The Second Air Force EAUTC at Geiger Field, Washington, encouraged companies within each battalion to trade about until they achieved a balance of those skills present. Specialists that could not be trained at the company level received instruction in battalion, regimental, or EAUTC schools. Although the power of the centers to transfer trainees from one unit to another resulted generally in a more efficient use of manpower, it also allowed units with priority status to draw upon other units within the same organization in order to fill to strength.

In addition to such sporadic raids, there was a continuous drain upon the units for overseas specialist replacements. Unlike the ASF, which had three Engineer Replacement Training Centers, the AAF, with a significant proportion of total engineer strength, had set up no adequate system for furnishing engineer replacements. As more engineer aviation units left the United States, demands grew. Requests were overwhelmingly for specialists. Taking skilled men from units in training not only interfered with instruction but supplied unsatisfactory replacements. The calls had become so heavy by July 1943 that Godfrey began to urge some arrangement similar to that used by ASF. He suggested the establishment of a pool at Jefferson Barracks, to be filled largely with specialists from schools, but also to contain some of the basics completing the eight weeks at that station. To keep them from going stale, a special three-month program would be supplied. At the end of that time, those who had not been assigned overseas would transfer to units in training. AAF took no immediate action. Throughout the summer the Air Engineer pressed for a decision as personnel, training, and program planning officials discussed housing and overhead arrangements. At the end of September AAF finally agreed to use graduates of the ASF schools and basics from Jefferson Barracks as individual replacements in the existing AAF overseas replacement training centers but refused to allow them to train as a group in a separate Engineer center.

Fortunately, from March to September the War Department allowed the Corps of Engineers to procure a large number of specialists by voluntary induction in com-

[32] (1) Memo, Office of Air Engr for Engrs of First, Second, Third, and Fourth Air Forces *et al.*, 24 May 43, sub: Tng. KCRC, AF 353, Tng Book II. (2) Tng Memo 8, Hq 4th EAUTC, 3 Jun 43, sub: Individual Tng Sch. 321, Bundle 3, First, Second, Third, and Fourth Air Forces, Bulky (S).

petition with the Navy Seabees. Volunteers for AAF went to the four EAUTC's for the first five weeks and then to units. The airborne battalions in the First Air Force profited most, primarily because of a faulty policy which dictated that these men be sent to the nearest center rather than distributed among the four EAUTC's according to need. All of the AAF white specialists from the industrialized eastern half of the United States went into the airborne EAUTC at Westover Field because that was the only EAUTC in that area which trained white troops.[33]

The ready-made specialists did not reach the EAUTC's in any numbers until June. The need was particularly acute for construction foremen, highway construction machine operators, carpenters, electricians, utility repairmen, tractor drivers, and demolitions experts. By mid-May the first few men arrived at the March Field EAUTC in the Fourth Air Force. The staff was jubilant. AGCT scores were high, average schooling was above high school level, and most of the men were under thirty. Near the end of the month Godfrey noted with pleasure and relief that the flow of volunteers had finally begun.[34]

Specialists and basics alike in all four air forces trained after 19 June 1943 on a new MTP published by OCE. The first five weeks, which Godfrey had tried unsuccessfully to introduce as the limit to training at Jefferson Barracks, comprised a standard basic military and engineering program common to all engineer units. The next eight weeks of tactical and technical training OCE tailored individually for each type of unit, with separate schedules for construction companies and headquarters and service companies. OCE co-ordinated closely with Godfrey in this revision in order to take advantage of his knowledge of overseas operations. Since he had technical supervision of the deployed engineer aviation units as well as those in the United States, Godfrey maintained a voluminous correspondence with many Engineer officers after they left the country. Largely upon Godfrey's recommendation OCE added a new subject—airdrome construction, repair, and maintenance—to the instruction of all construction companies, 87 hours for those of the airborne battalions and 95 for those of the engineer aviation battalions. All bridge and road building was dropped from airborne training. Each unit began training at some point in this program, depending upon the general level of training of the fillers assigned.[35]

Following this tactical and technical period each unit was supposed to enter upon an eleven-week unit training program. OCE could only suggest these programs, however, and had no authority to supervise their execution. The training broke down at several points, but one of the weakest spots proved to be the unit training of airborne engineers with the I Troop Carrier Command (TCC) during the last six weeks.

In other than the unit training of airborne troops, practicality and realism gradually replaced the simulation of the hurried days of 1942. Godfrey advocated this tougher program in line with the prevailing

[33] (1) See above, page 232. (2) Ltr, Lane for C of Mil Pers Br OCE, 25 Feb 43. OCE 220.3, Engr Avn Units. (3) Memo, Asst Engr Hq First Air Force for CofS Hq First Air Force, 15 Jan 44, sub: Rpt of Inspec of 1st Airborne EAUTC. 321, Engr Avn Bn (S).

[34] Ltr, Hq 4th EAUTC to Air Engr, 19 May 43, sub: Volunteer Individuals for Avn Engrs, with Routing Slip, Godfrey to Sturdevant, 27 May 43. OCE 353, 4th EAUTC.

[35] (1) 1st Ind, 18 Apr 43, on Ltr, O&T to Air Engr, 29 Mar 43, sub: Proposed MTP 5–1. OCE 353.01, Pt. 1. (2) MTP 5–1, 19 Jun 43.

opinion in the War Department and also out of personal conviction. To help inspire the desired realism, he distributed through his *Aviation Engineer Notes* many accounts of combat situations which units in training should be prepared to meet. Outstanding training exercises were also given extensive coverage. Further impetus came from Brig. Gen. Donald A. Davison, then Chief Engineer of the Northwest African Air Forces, who visited many training installations in the early summer and gave a first-hand account of aviation engineers in action. Officers from these battalions, after July, went to the newly created Army Air Forces Tactical Center at Orlando, Florida, for a 180-hour course of academic and on-the-job instruction in organization and equipment and in the techniques of camouflage and construction for air force needs. This elaborate school, with twelve airdromes, an academic plant costing twelve million dollars, and a complete model air force, gave the aviation engineer officers an excellent picture of their role in the Air Forces organization.[36]

Perhaps none of the battalions met all of the requirements which the Air Engineer set up for them but much improvement did take place during the summer and fall of 1943. Early in the summer one battalion engaged in a spirited defense of McChord Field, Washington, against a simulated airborne attack. The area selected for the exercise was ideal for the landing and consolidation of paratroops, an undulating cleared space near the field but hidden from direct ground observation by a small woods. "Occasional clumps of trees and patches of scotch broom" furnished concealment. A railroad embankment provided an easily defended position. One company spread out over this area as though dropped from the air and the rest of the battalion rushed out to counterattack before the paratroops could re-form and organize. Firecrackers and dynamite charges added noise and confusion to the scene. Although confusion seemed to be the chief product on both sides, the battalion learned many lessons during the day on the necessity for more training in scouting, relaying information, and concealment. With practice and retraining, confusion was no longer the chief result. Somewhat later, when this same battalion engaged in a night maneuver—the defense of a power station against a partially mechanized ground attack—communications were much improved. Installations were so well hidden that the enemy tanks were of little use. Control was excellent down to the lowest echelons. Other battalions shared in the general betterment, several building entire airdromes, including all necessary housing and facilities. The tempo increased, with some units maintaining for several weeks a twenty-four hour cycle of three eight-hour shifts. One battalion at Bushnell, Florida, pushed through a high-speed airdrome job in thirty-five and a half hours, including the laying of mat on a runway 100 by 4,000 feet. Battalions from March Field continued unit training under arduous climatic conditions at the DTC, and units in the Second Air Force spent limited periods in combined training under combat conditions in the Northwest Maneuver Area.[37]

[36] *Aviation Engineer Notes,* No. 14 (August, 1943). USAF HD 144.31A, Aug 43.

[37] (1) USAF HD, Engr–1878–HI (S). (2) USAF HD, Engr–2–HI, Oct 43. (3) Ltr, CO 1104th Engr Combat Group to CO EAUTC Ft. Wright, Wash., 24 Nov 43, sub: Avn Engrs in Oregon Maneuvers. KCRC, AF 354.2, Maneuvers. (4) Final POM Inspec Rpt by POM Div AFTAI, Hq AAF, 17, 23–24 Nov 43. 321 1871–1880, Engr Avn Bn, Bulky (S). (5) Ltr, Lane to CO Fourth Air Support Comd, 24 Jul 43. KCRC, AF 353, Tng Book II. (6) Excerpts from Inspec Rpt 1874th Engr Avn Bn by Maj Frank L. Read, 10 Oct 43. 321 1871–1880, Engr Avn Bn, Bulky (S).

Through the summer months of 1943 the EAUTC's began to function. OCE provided more suitable training programs, unit projects became more practical, voluntary specialists joined the mass of unskilled trainees, and used equipment flooded in from all points. It was just at this juncture, when aviation engineer training had achieved some measure of direction and stability, that the nationwide crisis in manpower developed. In order to fill the large number of units scheduled for activation in 1943, the Air Engineer had estimated a monthly intake of 6,750 white and 2,125 Negro trainees would be necessary from February through the month of September. In May the War Department cut the monthly allocation of inductees for aviation engineers to 2,650 white and 871 Negro trainees, less than half the number needed. No additional source of personnel to meet the established troop basis was indicated.

Nevertheless, Godfrey continued to activate the units according to plan. By early June sixteen engineer aviation battalions that had been activated for three months or more were not yet at full strength. Only one battalion out of an additional twenty-two that had been activated within the previous three months had as much as 50 percent of its fillers. Since the average rate of commitment of these units was six each month, and since much of the training program could not begin until the units were filled, the backlog of trained units was soon exhausted. By July it was clear that no engineer aviation battalions would be available for shipment during the months of August, September, and October. The two western EAUTC's in the Second and Fourth Air Forces, perhaps smarting under the unfair allocation of voluntary specialists, were convinced that their "huge shortages" were somehow a result of the complicated AAF personnel distribution system. At a conference held at March Field on 22 August they agreed that "without personnel to train, it is impossible for either Training Center to furnish any trained battalions in the future except the few now completing their training period. Calls from theater commanders for trained engineer aviation battalions must necessarily go unfilled under these conditions, and it was the consensus of the conference that the result could only be for the ASF to substitute general service regiments for engineer aviation battalions to build and maintain airdromes in overseas theaters." [38] By the end of August no action had yet been taken to open a firm supply of men to the engineer aviation battalions. The only relief in sight was the possible use of personnel released from disbanded air base security battalions, scarcely the type of men desired.[39]

September brought the first rumblings of the Bradley Plan which threatened to terminate all unit training of aviation engineers.[40] The double build-up of the AAF in England, for the strategic bombing of Germany and for the projected invasion the following spring, required a tremendous amount of men, supplies, and equipment. Maj. Gen. Follett Bradley, air inspector of the AAF, went to England in May 1943 and

[38] Memo for Record, Hq 4th EAUTC, 24 Aug 43. KCRC, AF 353, Tng Book III.

[39] Ltr, Lane to Godfrey, 5 Aug 43. 312.1–B, Classes of Corresp (S).

[40] Unless otherwise indicated, the following discussion of the Bradley Plan is based upon: (1) Wesley Frank Craven and James Lea Cate, eds., *Europe: TORCH to POINTBLANK, August 1942 to December 1943*, Vol. II, *The Army Air Forces in World War II* (Chicago: The University of Chicago Press, 1949), pp. 631–40; (2) 334–A, Bradley Plan, Comm and Rpts (S); (3) 321, A–D, Engr Corps (S).

drew up a plan which called for some 500,000 men in support of both operations. AAF headquarters approved the plan in July and the War Department followed suit, with minor reservations, on 21 September. Shipping arrangements included the transportation of most of the service units to England by early 1944, with ground assault forces following. It was at this point in planning that the AAF neglect of service units, including aviation engineers, came to light. Overemphasis upon combat elements had left the AAF seriously short of trained service organizations.

The AAF geared its shipments of units to the Bradley Plan quota of 40,000 men a month beginning in July, pending the final approval of the War Department. Although shipments for the month of August approached the numbers required, the forecast of trained units that would be available during the next four months fell far short. As a result of a combined study of this development by the OPD and AAF headquarters, Brig. Gen. John E. Hull of OPD suggested to General Arnold on 1 September that in lieu of trained units it might be necessary to ship the number of men desired as casuals, in whatever state of training, to be organized and trained as units by the Eighth Air Force in England. Arnold flew to England soon thereafter to discuss the matter in the theater. The solution seemed satisfactory. Units in training would be inactivated if necessary in order to furnish the full quota of fillers.

Service units already committed were to be shipped to the United Kingdom, as originally scheduled, intact. Units being prepared for special purposes and those required for duty in the United States would be spared. But all others activated and not committed were to be disbanded. Men from the inactivated units would fill the committed units to full strength and any above that number would go overseas as casuals. Engineer aviation units were hard hit. A preliminary list of units that would have to be inactivated, drawn up in the Office of the Air Engineer on 11 September 1943, included 33 engineer aviation battalions, 9 airborne engineer aviation battalions, and all 5 of the engineer aviation regiments. Moreover, no engineer units were to be activated in England and these men would be diverted into other AAF units. This was particularly embarrassing in the case of the airborne units that had been filled with voluntary specialists who were not supposed to be assigned to a type of unit for which they did not volunteer.

Still convinced of the need for the airborne units, Godfrey fought against their inactivation. He recalled for General Arnold the part which these special units, using bantam equipment, had played in providing crucial airstrips in the deserts of North Africa and in the remote mountain valleys of New Guinea. However, by September, two out of the three battalions in the Pacific were working on general construction jobs which called for standard equipment. So great was the need for heavier equipment that these battalions had begun independent experiments in knocked-down standard machinery. Godfrey was only partially successful in maintaining his stand and in prolonging the active life of those units still in the United States. Seven were inactivated by the end of February 1944, leaving eleven in existence.[41]

[41] (1) USAF HD, 251–1, May 42–Feb 44, The Tng of A/B Engr Avn Bns Within I Troop Carrier Comd, prepared by Hq IX Trp Carrier Comd, Nov 45. (2) Engr Avn Units, CONUS and Overseas, as of 1 Mar 44. OCE 320.2, Engr Avn Units (C).

Although many of the engineer aviation battalions were far understrength in September, the few that were definitely committed were at or near full strength. Therefore, few men from the uncommitted units had to be transferred. A freeze order of 14 September, prohibiting transfers except to committed units, caught the uncommitted units in every stage of organization and training. Unit training was supposed to continue, nevertheless, regardless of the number of men present. Inactivations would occur as the units were depleted through furnishing quotas of men to the Bradley Plan shipments. Unit training under such conditions would be at best half-hearted and without direction, even in those units that had the majority of their fillers. The men would never go overseas as units. They would probably not become part of an Engineer organization when they got there. The battalions would be little more than filler pools from which monthly quotas would be taken until the supply became exhausted.

Transfers to committed units were to be completed by 10 October. Thereafter no transfers would be allowed for any purpose, even if the committed units developed vacancies after that date. Voluntary specialists could not be distributed from the various basic training battalions. Units to be inactivated could not be consolidated when they became reduced to the point where the overhead would be uneconomical. No trading could be done between battalions to keep such reduced strengths in balance. In order to prevent complete chaos, Godfrey on 4 October proposed that the freeze order be lifted, temporarily at least. If about half of the units slated for eventual disbandment could be inactivated immediately and the personnel concentrated into those remaining, some semblance of a training program could continue. Not until 30 October did AAF headquarters take any action to unfreeze the personnel in these units to make training more economical.[42]

During the month of October, meanwhile, Godfrey made "a determined effort to stave off this slaughter" of engineer aviation battalions.[43] The General Staff early in that month revised the 1943 Troop Basis downward to a more realistic figure in terms of the manpower available. The cut in engineer aviation battalions, from 114 to 73, necessitated the disbandment of 41 battalions by the end of December. In order to disband this number of units, 8 out of the 16 committed battalions would have to be sacrificed. In his struggle to keep active as many engineer aviation battalions as possible, Godfrey was on firmer ground than in his fight for the airborne units. Theater commanders found the engineer aviation battalions useful and continued to call for them. OPD by 22 October had tentatively asked for 21 battalions for the first quarter of 1944. Godfrey could therefore resist the inactivations on the basis of predicted and actual needs. AAF Training was persuaded. No battalions could be furnished during the first half of 1944 if 41 battalions were to be inactivated by the end of 1943. By March 1944, only 13 engineer aviation battalions had been inactivated, leaving 101 in existence.[44]

One thing was clear. The great engineer aviation expansion was at an end. The unit

[42] (1) Hist of 2d EAUTC, Oct 43. USAF HD, Engr–2–HI (C). (2) Memo, Asst Engr First Air Force for A–3 Hq First Air Force, 26 Oct 43, sub: Rpt of Inspec of 881st A/B Engr Avn Bn. 321 842–880, Engr Avn Bn, Bulky (S).

[43] Ltr, Maj J. S. Caples to Col Russel M. Herrington, 3 Nov 43. 321, Engr Avn Bn (S).

[44] Engr Avn Units, CONUS and Overseas, as of 1 Mar 44. OCE 320.2, Engr Avn Units (C).

training load of the centers would become steadily less. Despite the fact that AAF delegated all replacement training of engineer aviation recruits to the centers, beginning the first of November, and directed that specialist training for all of AAF in categories primarily engineer should be concentrated at the EAUTC's, there was still no need for four large centers.[45]

Godfrey was not to preside over the reorganization and retrenchment.[46] Early in December he went to the CBI theater as theater air engineer. Col. George Mayo became Air Engineer. Although another drive just at this time on the part of AAF to integrate ASWAAF troops into the AAF without branch insignia failed, AAF Training in December did assume the responsibility for training and committing engineer aviation troops. During the ensuing period of contraction the Air Engineer would hold a less important post than before.[47]

In the First Air Force, the reduction of airborne troops at Westover Field had been drastic. In addition, the training regiment at Richmond had been inactivated. Therefore, on 19 December the EAUTC moved its headquarters to Richmond and took over direct supervision of all of the First Air Force units remaining. This organization lasted only a few months. As the units then in training finished their prescribed programs and moved out, the center dwindled. On 10 April 1944 the few men remaining transferred to the Fourth Air Force and the First Air Force EAUTC was disbanded. Fortunately, the great number of surplus voluntary specialists in the First Air Force were not all sent as casuals to the Eighth Air Force. After the lifting of the freeze order at the end of October, and with the reprieve given to many engineer aviation battalions, these men could be transferred and used as planned.[48]

The MacDill Field, Florida, EAUTC in the Third Air Force continued to train Negro units at about the same rate since a policy established in late November prohibited sending Negro troops overseas as casuals to fulfill the requirements of the Bradley Plan. On 7 December 1943 AAF Training made this center responsible for training all Negro engineer aviation troops, both unit fillers and replacements. A projected consolidation of the two western centers into a single organization to train all white engineer aviation troops could then be undertaken.[49]

By April 1944 the reorganization had been accomplished. All white trainees were under the supervision of the Geiger center and all Negro troops were at MacDill Field.

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[45] *Aviation Engineer Notes*, No. 17 (November, 1943). USAF HD 144.31A, Nov 43.

[46] In addition to the citations which appear with the text, the following section is based upon: (1) 321, Engr Avn Bn (S); (2) KCRC, AF 353, Tng; (3) 321–G, Engr Corps (S); (4) 321, First, Second, Third, and Fourth Air Force, Bulky; (5) 321 316–463, AAF Base Units, Bulky (S); (6) 321 802–807, Engr Avn Bns, Bulky (S).

[47] (1) *The Military Engineer*, XXXVII (September, 1945), 14. (2) Ltr, Godfrey to Engr Offs With the AAF, 4 Dec 43, sub: Integration of Arms and Svs, with Incl, Ltr, Arnold to All Pers of AAF, 6 Nov 43. KCRC, AF 321, Arms of Svs and Depots. (3) Ltr, Mayo to Col F. F. Frech, AF Engr SHAEF, 25 Apr 44. 321–E, Engr Corps (S).

[48] (1) 3d Ind, Hq 1st A/B EAUTC to CG First Air Force, 14 Feb 44, on Ltr, AAF Tng to CG First Air Force, 24 Jan 44, sub: Overseas Readiness Status of 1897th Engr Avn Bn. 321 1892–1907, Engr Avn Bn, Bulky (S). (2) Ltr, Mayo to Godfrey, 12 Feb 44. 353–K, Tng, Misc (S). (3) USAF HD, Engr–1–HI.

[49] (1) Memo for Record, Maj Francis M. Libershal, 18 Nov 43. 321 1882–1891, Engr Avn Bn, Bulky (S). (2) Hist Rpt, Third Engr Avn UTC, MacDill Fld, 18 Mar 43 to 1 May 44, Sec. 3, The Spec Tng of Engr Avn Bns, p. 80. USAF HD, 229.50–1, Vol. 1.

A further integration into the AAF organization occurred on 1 April and 1 May when these two centers lost their EAUTC designation and became the 463d and the 316th Army Air Forces Base Units (AAFBU), respectively. Both centers, for the rest of 1944, expended increasing efforts in training individuals in basic and specialist subjects to meet demands for replacements. Requisitions for units remained small and few were organized. At the year's end, 113 engineer aviation battalions were in existence.[50]

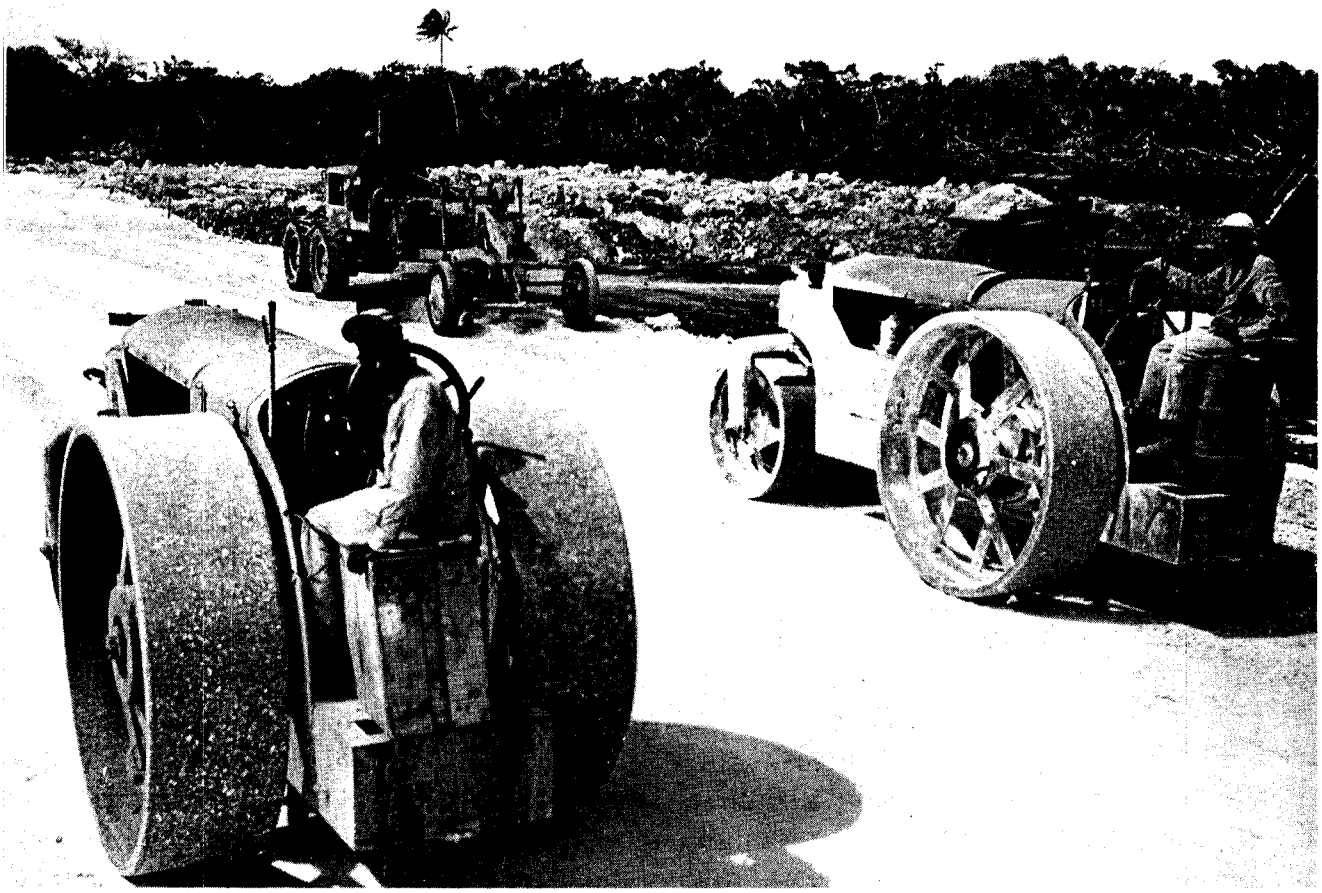
One new element in the training program resulted from the general shift of interest toward the Pacific theaters of operations in the summer of 1944. Experience had proved that few developed ports would be available for the discharge of troops and equipment. The more usual procedure would include unloading cargo ships directly upon Navy pontoon barges, and a shuttle service from shipside to beach. To familiarize the engineer aviation troops with this amphibious operation, the Fourth Air Force in July 1944 arranged to send small increments of men to a two-week course given by the Navy at Port Hueneme, California. During the first week the troops watched training films showing the assembly and launching of various types of barges and rafts, and floating drydocks and wharves, and then they actually assembled and launched the same types of craft. During the second week they learned to load, operate, beach, and unload the barges. The training was essentially that given the Seabees.

Further emphasis upon theater specialization began in December 1944 after the Chief Engineer, SWPA, outlined the subjects in which engineer units destined for his theater should be proficient. Since all of the battalions at Geiger and MacDill were slated for duty in the Pacific, his recommendations became an essential guide for both centers. In addition to amphibious operations, including the passage of beach obstacles, this list of subjects included air transport of equipment and supplies, drainage of wet areas, jungle reconnaissance and mapping, lumber production, waterproofing, construction with native materials, improvised bridging, and above all the efficient maintenance and operation of mechanical equipment.[51]

Demands from the Pacific for these last few units became so insistent, however, that much of the specialized training could not be perfected. On 20 December 1944, General Arnold directed that two of the battalions in training be sent out immediately in order to speed up the construction of strategic B–29 bases in the Central Pacific. A few days later, Arnold insisted that every effort be made to move the remaining battalions into the Southwest Pacific Area and the Pacific Ocean Areas. There followed a hasty training period reminiscent of the early days of 1942. Fillers from many types of Air Forces units, with no basic engineering training, and often with grades much higher than could be absorbed in the units, flooded into Geiger and MacDill. Readiness dates changed from week to week, always

[50] (1) Interdesk Memo, Maj R. W. Rogers to Col Elvin R. Heiberg, 14 Oct 44, sub: Rpt on Visit to the 463d AAFBU, Geiger Fld, Wash. KCRC, AF 333, Inspec and Investigation by IG and Other Offs, and Rpt (Cont), Book II. (2) Analysis of the Present Status of the War Dept Trp Basis, 1 Jan 45. AGO Special Reference Collection. (3) Ltr, TAG to CG Third Air Force, 1 May 44, sub: Discontinuance of the 3d EAUTC. 322, Engr Misc, Book II.

[51] (1) Ltr, AAF Tng to CO 463d AAFBU, 1 Dec 44, sub: Theater Spec Tng. 353–AD, Tng Misc (S). (2) Ltr, AAF Tng to CO 316th AAFBU, 13 Dec 44, sub: Theater Spec Tng. Same file.



ENGINEER TROOPS PREPARING BASE COURSE OF AIRSTRIP *on an island in the Marianas Group.*

shorter. Suggestions for redeploying battalions from the European and Mediterranean theaters in order to relieve the pressure met with no success. They too needed construction units to strengthen and lengthen existing paving to accommodate the new B–29. Consequently, many of the units, urgently needed, had several months deleted from their training time. Six Negro battalions activated in January 1945 had a June readiness date to meet. In January and February AAF was granted permission to send eleven battalions overseas without any unit training as long as individuals met the POM requirements. Between January and June 1945, twenty-one battalions were rushed to the Pacific to accelerate airdrome construction in the war against Japan.[52]

[52] (1) Rpt, Hq 1903d Engr Avn Bn to CG Fourth Air Force, 9 Dec 44, sub: Tng Status Rpt. 321, Engr Avn Bn, 1903d Engr Avn Bn (S). (2) Ltr, TAG to CG Third Air Force, 10 Jan 45, sub: Constitution and Activation of Certain Engr Units. OCE 322, Engr Avn Units. (3) Ltr, TAG to CG Fourth Air Force, 19 Jan 45, sub: Engr Avn Units. 321, Engr Avn Bn, 935th Engr Avn Regt (S). (4) Ltr, TAG to CG Third Air Force, 20 Jan 45, sub: Colored Engr Avn Units. 321, Engr Avn Bn, 1909th Engr Avn Bn (S). (5) R&R Hq AAF, Comment 1, OC&R to Tng, 28 Feb 45, sub: Engr Avn Units for Movement to POA. 321, Engr Avn Bn, 1915th Engr Avn Bn (S). (6) Station Lists, 463, AAFBU. KCRC, AF 320.2, Strength.